

REMARKS

Submitted herewith is an Excess Claim Fee Payment Letter to cover the cost of any excess claims added by this Amendment.

Claims 5-24 are all the claims presently pending in the application. Claims 5-8 and 14 have been amended to more particularly define the invention. Claims 19-24 have been added to claim additional features of the claimed invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 5-8 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Koide (U.S. Patent No. 6,580,098). Claims 5-7 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Shealy et al. (U.S. Patent No. 6,478,871). Claims 9-18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Nishinaga (U.S. Patent No. 6,368,733).

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention (as recited, for example, in claim 5) is directed to a group III nitride compound semiconductor device which includes a substrate on which a first environment division and a second environment division are formed, and a plurality of first group III nitride compound semiconductor layers formed on said first environment division so as to serve as effective semiconductor layers. Importantly, the first environment division includes an outer shape having rounded corners.

Conventional devices include a group III nitride compound semiconductor layer formed on a substrate. However, a stress due to a thermal expansion coefficient difference between the group III nitride compound semiconductor layer and the substrate, causes cracks in the group III nitride compound semiconductor layer (Application at page 1, lines 13-23). In addition, as described in the Application at page 11, lines 15-19, a conventional group III nitride compound semiconductor device may be commonly formed in an area having corners with sharp edges. These edges do not relax a stress applied to the group III nitride compound

semiconductor layer.

The claimed invention, on the other hand, has a first environment division which includes an outer shape having rounded corners (Application at Figure 3). The rounded corners may relax a stress applied to the group III nitride compound semiconductor layer, thereby improving a crystallinity of the layer (Application at page 4, lines 24-28).

II. THE PRIOR ART REFERENCES

A. The Koide and Shealy References

The Examiner alleges that Koide teaches the claimed invention of claims 5-8. The Examiner further alleges that Shealy teaches the claimed invention of claims 5-7.

Applicant respectfully submits that there are elements of the claimed invention which are neither taught nor suggested by Koide nor Shealy. However, in an effort to expedite prosecution of the present Application, Applicant points out to the Examiner that the present Application has a priority date of March 31, 1999, which is prior to the effective filing date of Koide (July 27, 1999) and prior to the effective filing date of Shealy (October 1, 1999).

Therefore, Applicant respectfully submits that neither Koide, nor Shealy are prior art against the present Application. Submitted herewith is a verified translation of Japanese patent application Hei 11-092948, which was filed on March 31, 1999 and from which the present Application claims priority.

In view of the foregoing, the Examiner is respectfully requested to withdraw these rejections.

B. The Nishinaga Reference

The Examiner alleges that Nishinaga teaches the claimed invention of claims 9-18. Applicant submits, however, that there are elements of the claimed invention which are neither taught nor suggested by Nishinaga.

Nishinaga discloses a semiconductor substrate including a single crystal substrate having thereon a mask and a Group III-V compound semiconductor epitaxially grown layer. The mask includes an insulating material thin film or high melting point metal thin film having a plurality of slit-like exposed areas running at an angle in excess of 0°. The Group III-V compound semiconductor epitaxially grown layer is formed by growing a Group III-V

compound semiconductor starting from each of said plurality of exposed areas and conjunction-integrating the grown semiconductors on the mask (Nishinaga at Abstract).

Applicant submits, however, that Nishinaga does not teach or suggest “*wherein at least one opening in said plurality of openings comprises a rounded shape*”, as recited, for example, in claim 9.

As noted above, unlike conventional devices which are commonly formed in an area having corners with sharp edges, the claimed invention has a separating layer which includes a plurality of openings, at least one of the openings having a rounded shape (Application at Figure 3). The rounded shape may relax a stress applied to the group III nitride compound semiconductor layer, thereby improving a crystallinity of a group III nitride compound semiconductor layer (Application at page 4, lines 24-28).

Clearly, these features are not taught or suggested by Nishinaga. Indeed, Nishinaga is completely unrelated to the claimed invention.

Specifically, the Examiner attempts to equate the mask 13(2) in Nishinaga with the separating layer of the claimed invention. However, this is clearly incorrect. For example, nowhere does Nishinaga teach or suggest that the mask 13(2) has openings with a rounded shape. Instead, the mask 13(2) merely has “slits” (e.g., exposed area 1). Certainly, a “slit” could not be considered to include an opening having a “rounded shape”.

In fact, Nishinaga clearly shows that the exposed areas 1 do not have a “rounded shape” (Nishinaga at Figure 1). Moreover, Nishinaga expressly states that the mask 13(2) has acute angles and therefore, any exposed area formed by the mask would necessarily include such acute angles (Nishinaga at col. 4, lines 11-17).

The Examiner presumably attempts to rely on claim 7 in Nishinaga as disclosing a “rounded shape”. However, claim 7 merely states that the mask has “an exposed area in the shape of a single closed curve having at least one pair of two adjacent linear sides **meeting at an internal angle of 250 to 358°**” (Nishinaga at col. 12, lines 36-47)(emphasis added). Thus, this passage underscores the importance of the acute angular relationship of the mask in the Nishinaga device. Therefore, this passage is clearly unrelated to an “opening”, let alone an opening having a “rounded shape”, as in the claimed invention.

Therefore, Applicant submits that there are elements of the claimed invention that are not taught or suggest by Nishinaga. Therefore, the Examiner is respectfully requested to

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withdraw this rejection.

III. FORMAL MATTERS AND CONCLUSION

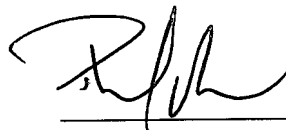
In view of the foregoing, Applicant submits that claims 5-24, all the claims pending and presently being examined in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 10/9/03



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